

Substituting Water for Herbicides: Interactions of Cover Crop Extent and Irrigation in New York Vineyards

Robert M. Pool and Alan N. Lakso

Department of Horticultural Sciences
NY State Agricultural Experiment Station
Cornell University
Geneva, NY 14456

Summary

Grape growers are very concerned with vineyard floor management (cover crops and weed control). Uncontrolled weeds consume limited soil water, compete for mineral nutrients and greatly reduce yield. They also can contaminate harvest, but excessive cultivation increases soil erosion and may prevent grower access to vineyards during critical periods. Increasingly growers have become dependent upon long lived, soil applied herbicides to manage their vineyard floors. These have a relatively high potential to enter ground water systems. This research addresses two issues. The first task is to document the relationship between amount of floor cover and vine performance. That will allow growers to make intelligent decisions as to how much weed control they need. The second is to determine the extent to which irrigating the vineyard can supply the needs of both the weeds and the grapevines and so allow greater tolerance of weed competition. Even though 1997 had much greater than normal rainfall, there were important effects of both fraction of floor cover and irrigation on vine growth, yield and fruit quality. This suggests that the research should be continued to document vine response in years of below normal rainfall.

For a printed copy of the entire report, please contact the NYS IPM office at:

IPM House
630 W. North St.
New York State Agricultural Experiment Station
Geneva NY 14456
315-878-2353